



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/585,538

03/04/2009

Paul A. Geel

25420C

7674

99658

7590

02/17/2011

Calfce, Halter & Grilswold LLP

800 Superior Ave E

Suite 1400

Cleveland, OH 44114

EXAMINER

MATZEK, MATTHEW D

ART UNIT

PAPER NUMBER

1786

NOTIFICATION DATE

DELIVERY MODE

02/17/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocket@calfce.com

ocvipdept@owenscorning.com

dcumin@calfce.com

Office Action Summary

Application No.

10/585,538

Applicant(s)

GEEL ET AL.

Examiner

MATTHEW D. MATZEK

Art Unit

1786

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 18-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Election/Restrictions

1. Applicant's election without traverse of Invention I, claims 1-17 in the reply filed on 12/3/2010 is acknowledged.
2. Claims 18-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12/3/2010.

Claim Objections

3. Claims 1, 10, 14, and 17 are objected to because of the following informality: claim 1 recites "a prebinder and reinforcing fibers selected from a group consisting of glass fibers, ceramic fibers, and mixtures thereof." The claim recites improper alternative language. It should be noted that if Applicant intended to recite a Markush-type claim, the claim should recite "a prebinder and reinforcing fibers selected from the group" and if Applicant intended to recite alternative reinforcing fibers, the claim should recite "glass fibers, ceramic fibers, or mixtures thereof." Claims 10, 14 and 17 recite similar improper alternative language and should be amended accordingly.
4. Claim 4 is objected to because it is missing the word "at" before the pressure values.
5. Claims 10 and 17 are objected to because of the following informality: the claim recites "melamin formaldehyde resins." "Melamin" should be spelled "melamine." Appropriate corrections are required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. Regarding claims 1-17, claim 1 recites “about 0 to about 10 percent optical brightener.” It is unclear if the surface finish formulation includes about 0 to about 10 percent optical brightener by weight of the surface finish formulation or by composition in comparison to the filler and the binder.
8. Regarding claims 3 and 6, it is unclear what percentage or degree of “substantial absence” is associated with microspheres which are “substantially absent from said surface finish formulation.” It should be noted that if Applicant intends to claim a percentage or degree of “substantial absence,” that there must be support for the claimed limitation in the specification.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-4 and 6-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ahluwalia (US 5,965,257).

- a. Ahluwalia teaches an impregnated fibrous veil, comprising a nonwoven fibrous veil including a prebinder and reinforcing fibers selected from a group consisting of glass fibers, ceramic fibers, and mixtures thereof, said nonwoven fibrous veil having at least one face impregnated with a surface finish formulation including about 50 to about 95 weight percent filler, about 5 to about 50 weight percent binder and about 0 to about 10 percent optical brightener (see entire document including column 1 line 66 to column 2 line 35, column 2 lines 55-64, column 3 lines 5-52, column 4 lines 26-49, column 5 lines 15-30, column 6 line 50 to column 7 line 8, column 7 lines 25-50).
- b. Regarding claims 2-4 and 6, Ahluwalia does not appear to teach that the veil has an air porosity of at least 1,500 l/m²s at 1 mBar pressure or a compressibility ratio of 1.2 or less between 0.5 and 25.0 kPa pressure. Although the prior art does not disclose

claimed air porosity and compressibility ratio, the claimed properties are deemed to be inherent to the structure in the prior art since the Ahluwalia reference teaches an invention with a similar structural and chemical composition as the claimed invention. Properties are the same when the structure and composition are the same. The burden is on the Applicants to prove otherwise. Additionally, Ahluwalia teaches a porosity in the range of 800 to 1,000 cfm (column 5 lines 15-30). Absent unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the air porosity and compressibility ratio since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In the present invention one would have been motivated to optimize the air porosity and compressibility ratio in order to form a structural laminate facing sheet, filter media, or vapor barrier which is porous and resilient based on the intended application.

c. Regarding claim 3, microspheres are substantially absent from said surface finish formulation (column 2 lines 20-35, column 2 lines 55-64, column 7 lines 25-50). Regarding claim 6, the nonwoven fibrous veil includes about 5 to about 20 weight percent prebinder and between about 80 to about 95 weight percent reinforcing fibers (column 3 lines 16-28). Regarding claim 7, the prebinder includes bonding fibers (column 2 lines 11-19, column 4 lines 26-49). Regarding claim 8, the prebinder includes thermoplastic binding fibers (column 2 lines 11-19, column 4 lines 26-49). Regarding claim 9, the prebinder includes bicomponent fibers (column 2 lines 11-19, column 4 lines 26-49). Regarding claim 10, the prebinder is selected from the group of materials

consisting of a water soluble binder, an emulsion binder, polymers and copolymers of styrene, butadiene, acrylic and methacrylic monomers, vinyl acetate, polyesters, polyvinyl alcohols, melamin formaldehyde resins, urea formaldehyde resins and mixtures thereof (column 3 lines 16-28, column 4 lines 26-49).

Claim Rejections - 35 USC § 103

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ahluwalia, as applied to claim 2 above, and further in view of Randall (US 2002/0155282). Ahluwalia fails to teach that the veil has a thickness of 0.5 mm or less at 0.5 kPa.

- a. Randall provides this conventional teaching showing that it is known in the art to form a substantially similar coated glass fiber mat wherein the coating comprises a binder and inorganic particles wherein the thickness is 0.356 mm ([0001, 0018, 0024, 0026, 0031, 0038-0042, 0052]).
- b. Ahluwalia and Randall are from the same field of endeavor (i.e. coated glass fiber mat).
- c. Since Ahluwalia is silent with regards to the specific thickness, it would have been necessary and thus obvious to look to the prior art for conventional thicknesses. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the coated structural article of Ahluwalia with a

thickness of 0.356 mm, as taught by Randall, motivated by the desire to form a conventional coated structural article which is resilient, thin, and lightweight based on the desired application.

d. It should be noted that although Ahluwalia in view of Randall does not teach the thickness specifically at a 0.5 kPa, the product formed by Ahluwalia in view of Randall would have the claimed thickness as the thickness disclosed by Ahluwalia in view of Randall is not subjected to pressure but still anticipates the claimed thickness.

11. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahluwalia in view of Randall, as applied to claim 5 above, and further in view of Geel (US 2003/0109190). Ahluwalia and Randall fail to provide for a diameter or length for the reinforcing fibers

a. Geel provides this conventional teaching showing that it is known in the art to form a substantially similar coated structural article wherein the glass fibers have a diameter ranging from about 6 to about 16 microns and a length ranging from about 4 to about 25 mm (Geel, paragraphs 0004, 0007, 0008, 0018).

b. Ahluwalia and Geel are from the same field of endeavor (i.e. coated glass fiber mat).

c. Since the prior art is silent with regards to the specific characteristics of the reinforcing fibers, it would have been necessary and thus obvious to look to the prior art for conventional specifications for reinforcing fibers. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the coated structural article of Ahluwalia in view of Randall wherein the reinforcing

fibers have a diameter ranging from about 6 to about 16 microns and a length ranging from about 4 to about 25 mm, as taught by Geel, motivated by the expectation of forming a conventional coated structural article suitable for the desired application. Claim 12 is rejected as the filler is an organic filler that is dispersible in water (Ahluwalia, column 2 lines 20-35, column 7 lines 25-50).

12. Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahluwalia in view of Randall and Geel, as applied to claims 11 and 12 above, and further in view of Brands (US 4,784,897). Ahluwalia in view of Randall and Geel do not appear to teach that the inorganic filler has an average particle size in the range of about 0.1 to about 10 microns, although Ahluwalia teaches that the particle size is such that less than 0.03% of the particles remained on an agitated 0.1 inch x 0.1 inch screen (Ahluwalia, column 4 lines 50-59).

a. Brand provides this conventional teaching showing that it is known in the art to form a substantially similar coated structural article wherein the inorganic material has an average particle size about 10 μ m (Brand, column 1 lines 12-50, column 2 lines 14-63, column 3 lines 4-31, column 5 lines 29-44). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the coated structural article of Ahluwalia in view of Randall and Geel, wherein the inorganic filler has an average particle size in about 10 microns, as taught by Brand, motivated by the expectation of forming a conventional coated structural article with inorganic filler material, conforming to the teachings of Ahluwalia absent unexpected results, which is porous, lightweight and durable for the intended application.

- b. Ahluwalia and Brand are from the same field of endeavor (i.e. coated glass fiber mat).
- c. Since the prior art is silent with regards to the specific characteristics of the inorganic filler, it would have been necessary and thus obvious to look to the prior art for conventional specifications for inorganic filler materials which are used to coat structural articles. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the coated structural article of Ahluwalia with filler particles of the size disclosed in Brand with the motivation of forming a conventional fiberglass coated article for the desired application.
- d. Regarding claim 14, the filler is selected from a group consisting of calcium carbonate, aluminum trihydrate, titanium dioxide, magnesium hydroxide, silicium oxide, clay, talc, and mixtures thereof (Ahluwalia, column 2 lines 20-35, column 7 lines 25-50). Regarding claim 15, the binder includes both thermosetting and thermoplastic resins (Ahluwalia, column 3 lines 5-15). Regarding claim 16, the binder is a water dispersible emulsion type binder or a solution type binder (Ahluwalia, column 3 lines 5-15). Regarding claim 17, the binder is selected from a group of materials consisting of a water soluble binder, an emulsion binder, polymers and copolymers of styrene, butadiene, acrylic and methacrylic monomers, vinyl acetate, polyesters, polyvinyl alcohols, melamin formaldehyde resins, urea formaldehyde resins and mixtures thereof (Ahluwalia, column 3 lines 5-15).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW D. MATZEK whose telephone number is (571)272-2423. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571.272.1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew D Matzek/
Examiner, Art Unit 1786